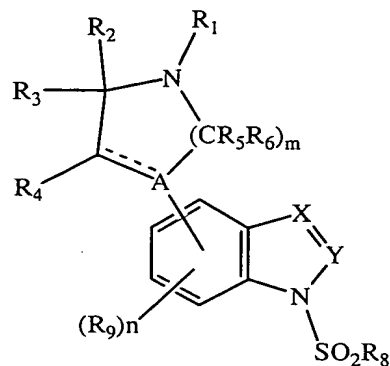


WHAT IS CLAIMED IS:

1. A compound of formula I



(I)

wherein

A is C, CR₁₀ or N;

X is CR₁₁ or N;

Y is CR₇ or N with the proviso that when X is N, then Y must be CR₇;

R₁ is H, C₁-C₆alkylcarbonyl, C₁-C₆alkylcarbonyloxy or an C₁-C₆alkyl, C₁-C₆alkenyl, C₁-C₆alkynyl or cycloheteroalkyl group each optionally substituted;

R₂, R₃, R₄, R₅ and R₆ are each independently H, halogen, OH or an optionally substituted C₁-C₆alkyl group;

R₇ and R₁₁ are each independently H, halogen or an C₁-C₆alkyl, aryl, heteroaryl or C₁-C₆alkoxy group each optionally substituted;

R₈ is an C₁-C₆alkyl, aryl or heteroaryl group each optionally substituted;

R₉ is H, halogen or an C₁-C₆alkyl, C₁-C₆alkoxy, C₁-C₆alkenyl, aryl or heteroaryl group each optionally substituted;

R_{10} is H, OH or an optionally substituted C_1 - C_6 alkoxy group;

m is an integer of 1, 2 or 3;

n is 0 or an integer of 1, 2 or 3; and

5 --- represents a single bond or a double bond; or
a pharmaceutically acceptable salt thereof.

2. The compound according to claim 1 wherein A is N and m is 2.

10

3. The compound according to claim 1 wherein R_8 is an optionally substituted phenyl group.

4. The compound according to claim 1 wherein R_2 ,
15 R_3 , R_4 , R_5 and R_6 are H.

5. The compound according to claim 2 wherein R_1 is H or a C_1 - C_6 alkyl or cycloheteroalkyl group each optionally substituted.

20

6. The compound according to claim 5 selected from the group consisting of:

1-(phenylsulfonyl)-4-piperazin-1-yl-1H-indole;

1-[(2-bromophenyl)sulfonyl]-4-piperazin-1-yl-1H-indole;

25 1-[(6-chloroimidazo[2,1-b][1,3]thiazol-5-yl)sulfonyl]-4-piperazin-1-yl-1H-indole;

1-[(3,4-dimethoxyphenyl)sulfonyl]-4-piperazin-1-yl-1H-indole;

30 1-[(5-chloro-3-methyl-1-benzothien-2-yl)sulfonyl]-4-piperazin-1-yl-1H-indole;

1-[(4-bromophenyl)sulfonyl]-4-piperazin-1-yl-1H-indole;

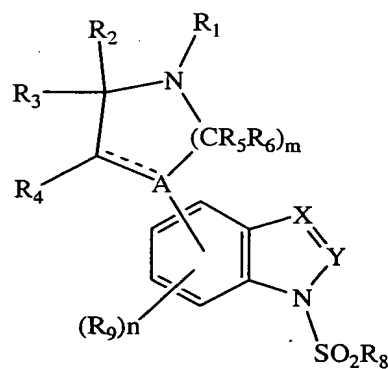
1-[(5-bromothien-2-yl)sulfonyl]-4-piperazin-1-yl-1H-indole;

35 1-[(4,5-dichlorothien-2-yl)sulfonyl]-4-piperazin-1-yl-1H-indole;

methyl 4-[(4-piperazin-1-yl-1H-indol-1-yl)sulfonyl]phenyl
 ether;
 4-piperazin-1-yl-1-[(4-(trifluoromethoxy)phenyl)sulfonyl]-1H-indole;
 5 4-(4-benzylpiperazin-1-yl)-1-(phenylsulfonyl)-1H-indole;
 4-(4-benzylpiperazin-1-yl)-1-[(2-bromophenyl)sulfonyl]-
 1H-indole;
 4-(4-benzylpiperazin-1-yl)-1-[(6-chloroimidazo[2,1-
 b][1,3]thiazol-5-yl)sulfonyl]-1H-indole;
 10 4-(4-benzylpiperazin-1-yl)-1-[(3,4-dimethoxyphenyl)sulfonyl]-1H-indole;
 4-[4-(3-methoxybenzyl)piperazin-1-yl]-1-(phenylsulfonyl)-
 1H-indole;
 1-(phenylsulfonyl)-4-[4-(pyridin-4-ylmethyl)piperazin-1-
 15 yl]-1H-indole;
 1-(phenylsulfonyl)-4-[4-(pyridin-3-ylmethyl)piperazin-1-
 yl]-1H-indole;
 1-[(2-bromophenyl)sulfonyl]-4-[4-(3-methoxybenzyl)piperazin-1-yl]-1H-indole;
 20 1-[(2-bromophenyl)sulfonyl]-4-[4-(pyridin-4-ylmethyl)piperazin-1-yl]-1H-indole;
 1-[(2-bromophenyl)sulfonyl]-4-[4-(pyridin-3-ylmethyl)piperazin-1-yl]-1H-indole;
 1-(phenylsulfonyl)-5-piperazin-1-yl-1H-indazole;
 25 1-(phenylsulfonyl)-6-piperazin-1-yl-1H-indazole;
 1-[(2-bromophenyl)sulfonyl]-6-piperazin-1-yl-1H-indazole;
 1-[(4-bromophenyl)sulfonyl]-5-piperazin-1-yl-1H-indazole;
 1-[(4-bromophenyl)sulfonyl]-6-piperazin-1-yl-1H-indazole;
 1-[(5-bromothien-2-yl)sulfonyl]-5-piperazin-1-yl-1H-
 30 indazole;
 1-[(5-bromothien-2-yl)sulfonyl]-6-piperazin-1-yl-1H-indazole;
 1-[(4-fluorophenyl)sulfonyl]-5-piperazin-1-yl-1H-indazole;

1-[(4-fluorophenyl)sulfonyl]-6-piperazin-1-yl-1H-indazole;
 methyl 4-[(5-piperazin-1-yl-1H-indazol-1-yl)sulfonyl]phenyl ether;
 5 1-phenylsulfonyl-4-(4-propylpiperazin-1-yl)-1H-indazole;
 1-phenylsulfonyl-4-piperazin-1-yl-1H-indazole;
 1-phenylsulfonyl-4-(4-phenethylpiperazin-1-yl)-1H-indazole;
 1-phenylsulfonyl-4-[4-(3-phenylpropyl)-piperazin-1-yl]-
 10 1H-indazole; and
 the pharmaceutically acceptable salts thereof.

7. A method for the treatment of a disorder of the central nervous system related to or affected by the 5-HT₆ receptor in a patient in need thereof which comprises
 15 administering to said patient a therapeutically effective amount of a compound of formula I.



(I)

20 wherein
 A is C, CR₁₀, or N;
 X is CR₁₁ or N;
 Y is CR₇ or N with the proviso that when X is N, then
 Y must be CR₇;
 25 R₁ is H, C₁-C₆alkylcarbonyl, C₁-C₆alkylcarbonyloxy or
 an C₁-C₆alkyl, C₁-C₆alkenyl, C₁-C₆alkynyl or
 cycloheteroalkyl group each optionally
 substituted;

R_2 , R_3 , R_4 , R_5 and R_6 are each independently H, halogen, OH or an optionally substituted C_1 - C_6 alkyl group;

R_7 and R_{11} are each independently H, halogen or an C_1 - C_6 alkyl, aryl, heteroaryl or C_1 - C_6 alkoxy group each optionally substituted;

R_8 is an C_1 - C_6 alkyl, aryl or heteroaryl group each optionally substituted;

R_9 is H, halogen or an C_1 - C_6 alkyl, C_1 - C_6 alkoxy, C_1 - C_6 alkenyl, aryl or heteroaryl group each optionally substituted;

R_{10} is H, OH or an optionally substituted C_1 - C_6 alkoxy group;

m is an integer of 1, 2 or 3;

n is 0 or an integer of 1, 2 or 3; and

---- represents a single bond or a double bond; or a pharmaceutically acceptable salt thereof.

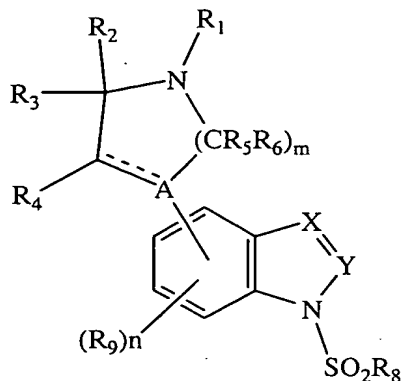
8. The method according to claim 7 wherein said disorder is a motor disorder, anxiety disorder or cognitive disorder.

9. The method according to claim 7 wherein said disorder is schizophrenia or depression.

10. The method according to claim 8 wherein said cognitive disorder is a neurodegenerative disorder.

11. The method according to claim 10 wherein said neurodegenerative disorder is Alzheimer's disease or Parkinson's disease

12. A pharmaceutical composition which comprises a pharmaceutically acceptable carrier and an effective amount of a compound of formula I.



(I)

wherein

A is C, CR₁₀ or N;

5 X is CR₁₁ or N;

Y is CR₇ or N with the proviso that when X is N, then
Y must be CR₇;

10 R₁ is H, C₁-C₆alkylcarbonyl, C₁-C₆alkylcarbonyloxy or
an C₁-C₆alkyl, C₁-C₆alkenyl, C₁-C₆alkynyl or
cycloheteroalkyl group each optionally
substituted;

R₂, R₃, R₄, R₅ and R₆ are each independently H,
halogen, OH or an optionally substituted C₁-
C₆alkyl group;

15 R₇ and R₁₁ are each independently H, halogen or an C₁-
C₆alkyl, aryl, heteroaryl or C₁-C₆alkoxy group
each optionally substituted;

R₈ is an C₁-C₆alkyl, aryl or heteroaryl group each
optionally substituted;

20 R₉ is H, halogen or an C₁-C₆alkyl, C₁-C₆alkoxy, C₁-
C₆alkenyl, aryl or heteroaryl group each
optionally substituted;

R₁₀ is H, OH or an optionally substituted C₁-C₆alkoxy
group;

25 m is an integer of 1, 2 or 3;

n is 0 or an integer of 1, 2 or 3; and

---- represents a single bond or a double bond; or

a pharmaceutically acceptable salt thereof.

13. The composition according to claim 12 wherein A is N and m is 2.

5

14. The composition according to claim 12 wherein R₈ is an optionally substituted phenyl group.

15. The composition according to claim 12 wherein R₂, R₃, R₄, R₅ and R₆ are H.

10

16. The composition according to claim 13 wherein R₁ is H or a C₁-C₆alkyl or cycloheteroalkyl group each optionally substituted.

15

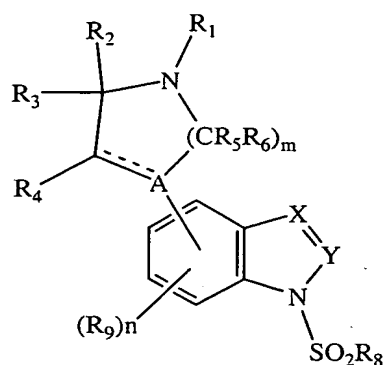
17. The composition according to claim 16 having a compound of formula I selected from the group consisting of:

- 1-(phenylsulfonyl)-4-piperazin-1-yl-1H-indole;
- 20 1-[(2-bromophenyl)sulfonyl]-4-piperazin-1-yl-1H-indole;
- 1-[(6-chloroimidazo[2,1-b][1,3]thiazol-5-yl)sulfonyl]-4-piperazin-1-yl-1H-indole;
- 1-[(3,4-dimethoxyphenyl)sulfonyl]-4-piperazin-1-yl-1H-indole;
- 25 1-[(5-chloro-3-methyl-1-benzothien-2-yl)sulfonyl]-4-piperazin-1-yl-1H-indole;
- 1-[(4-bromophenyl)sulfonyl]-4-piperazin-1-yl-1H-indole;
- 1-[(5-bromothien-2-yl)sulfonyl]-4-piperazin-1-yl-1H-indole;
- 30 1-[(4,5-dichlorothien-2-yl)sulfonyl]-4-piperazin-1-yl-1H-indole;
- 1-methyl 4-[(4-piperazin-1-yl-1H-indol-1-yl)sulfonyl]phenyl ether;
- 4-piperazin-1-yl-1-[(4-(trifluoromethoxy)phenyl)sulfonyl]-1H-indole;
- 35

- 4-(4-benzylpiperazin-1-yl)-1-(phenylsulfonyl)-1H-indole;
 4-(4-benzylpiperazin-1-yl)-1-[(2-bromophenyl)sulfonyl]-
 1H-indole;
 4-(4-benzylpiperazin-1-yl)-1-[(6-chloroimidazo[2,1-
 5 b][1,3]thiazol-5-yl)sulfonyl]-1H-indole;
 4-(4-benzylpiperazin-1-yl)-1-[(3,4-
 dimethoxyphenyl)sulfonyl]-1H-indole;
 4-[4-(3-methoxybenzyl)piperazin-1-yl]-1-(phenylsulfonyl)-
 1H-indole;
 10 1-(phenylsulfonyl)-4-[4-(pyridin-4-ylmethyl)piperazin-1-
 yl]-1H-indole;
 1-(phenylsulfonyl)-4-[4-(pyridin-3-ylmethyl)piperazin-1-
 yl]-1H-indole;
 1-[(2-bromophenyl)sulfonyl]-4-[4-(3-
 15 methoxybenzyl)piperazin-1-yl]-1H-indole;
 1-[(2-bromophenyl)sulfonyl]-4-[4-(pyridin-4-
 ylmethyl)piperazin-1-yl]-1H-indole;
 1-[(2-bromophenyl)sulfonyl]-4-[4-(pyridin-3-
 ylmethyl)piperazin-1-yl]-1H-indole;
 20 1-(phenylsulfonyl)-5-piperazin-1-yl-1H-indazole;
 1-(phenylsulfonyl)-6-piperazin-1-yl-1H-indazole;
 1-[(2-bromophenyl)sulfonyl]-6-piperazin-1-yl-1H-indazole;
 1-[(4-bromophenyl)sulfonyl]-5-piperazin-1-yl-1H-indazole;
 1-[(4-bromophenyl)sulfonyl]-6-piperazin-1-yl-1H-indazole;
 25 1-[(5-bromothien-2-yl)sulfonyl]-5-piperazin-1-yl-1H-
 indazole;
 1-[(5-bromothien-2-yl)sulfonyl]-6-piperazin-1-yl-1H-
 indazole;
 1-[(4-fluorophenyl)sulfonyl]-5-piperazin-1-yl-1H-
 30 indazole;
 1-[(4-fluorophenyl)sulfonyl]-6-piperazin-1-yl-1H-
 indazole;
 methyl 4-[(5-piperazin-1-yl-1H-indazol-1-
 yl)sulfonyl]phenyl ether;
 35 1-phenylsulfonyl-4-(4-propylpiperazin-1-yl)-1H-indazole;

1-phenylsulfonyl-4-piperazin-1-yl-1H-indazole;
 1-phenylsulfonyl-4-(4-phenethylpiperazin-1-yl)-1H-
 indazole;
 1-phenylsulfonyl-4-[4-(3-phenylpropyl)-piperazin-1-yl]-
 5 1H-indazole; and
 the pharmaceutically acceptable salts thereof.

18. A method for the preparation of a compound of formula I.



(I)

wherein

A is C, CR₁₀ or N;

X is CR₁₁ or N;

15 Y is CR₇ or N with the proviso that when X is N, then
 Y must be CR₇;

20 R₁ is C₁-C₆alkylcarbonyl, C₁-C₆alkylcarbonyloxy or an
 C₁-C₆alkyl, C₁-C₆alkenyl, C₁-C₆alkynyl or
 cycloheteroalkyl group each optionally
 substituted;

R₂, R₃, R₄, R₅ and R₆ are each independently H,
 halogen, OH or an optionally substituted C₁-
 C₆alkyl group;

25 R₇ and R₁₁ are each independently H, halogen or an C₁-
 C₆alkyl, aryl, heteroaryl or alkoxy group each
 optionally substituted;

R₈ is an C₁-C₆alkyl, aryl or heteroaryl group each
 optionally substituted;

R_9 is H, halogen or an C_1 - C_6 alkyl, C_1 - C_6 alkoxy, C_1 - C_6 alkenyl, aryl or heteroaryl group each optionally substituted;

R_{10} is H, OH or an optionally substituted C_1 - C_6 alkoxy group;

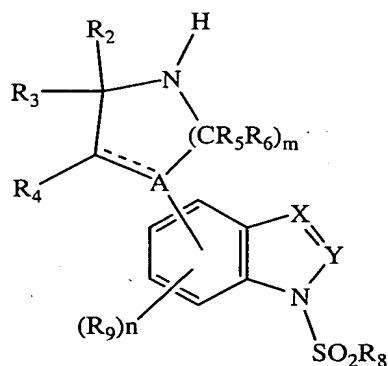
m is an integer of 1, 2 or 3;

n is 0 or an integer of 1, 2 or 3; and

---- represents a single bond or a double bond

said method which comprises reacting a compound of

10 formula Ia



(Ia)

15 wherein A, X, R_2 , R_3 , R_4 , R_5 , R_6 , R_7 , R_8 , R_9 , m and n are as defined hereinabove for formula I with a compound R_1 -Hal wherein R_1 is as defined hereinabove for formula I and Hal is Cl, Br or I.